

## REMARKS

Claims 1-36 were previously pending. Claim 1-6 have been cancelled. Claims 7, 8, 10, 13, 15, 17, 18, 20, 25, 26, 28, 31, and 33 have been amended. These amendments are supported at least by the specification in page 5, lines 7-11; page 14, lines 1-10. Claims 8, 10, 13, 15, 18, 20, 26, 28, 31, and 33 have been amended for editorial purposes without any narrowing on the scopes of the claims. New claims 37 and 38 have been added. Upon entry of the amendments, claims 7-38 will be pending.

### **Applicants' Statement of Substance of Examiner Interview**

Applicants would like to thank Examiner Jones Jr. for the courtesy extended in the telephone interview conducted on April 7, 2009. In the interview, the Examiner noted that the objection to claim 25 had been withdrawn prior to the mailing of the Office Action dated March 16, 2009 and that it was an error to indicate that claim 25 was objected to in the Office Action Summary form.

### **Claim Rejections -- 35 U.S.C. 102**

I. Applicants respectfully traverse the rejections of claims 1-5, 17-21, and 23 under 35 U.S.C. §102(e) as being anticipated by Shiga et al. (US 7,084,214). Claims 1-5 have been cancelled, rendering the rejections to these claims moot.

Claim 17 has been amended to recite a polyester resin composition, comprising *an amorphous polyester resin (I) reacted partially with a reactive compound (II)* containing two or more glycidyl groups and/or isocyanate groups per molecule and having a weight average molecular weight of not less than 200 and not more than 500 thousands; and a crystalline polyester resin (IV).

Claim 25 has been amended to recite a process for producing a molded article comprising mixing a modifier with an amorphous polyester (III) and/or a crystalline polyester resin (IV), wherein the modifier comprises an amorphous polyester resin (I) reacted partially with a reactive compound (II); and melt molding.

In the claimed invention, it is important that an amorphous polyester resin (I) and a reactive compound (II) first react partially with each other to form a modifier and then the

obtained modifier is mixed with an amorphous polyester (III) and/or a crystalline polyester resin (IV) because such a process improves moldability and mechanical physical property while maintains the transparency of the molded article (see specification in page 14, lines 24-27). On the other hand, when an amorphous polyester resin (I), a reactive compound (II), an amorphous polyester (III) and/or a crystalline polyester resin (IV) are simply dry-blended and the blend of these components is fed into a molding machine, an increase in the viscosity of the melt is likely to occur, causing difficulty in controlling the molding process and even gelling of the material (see specification from page 14, line 27 to page 15, line 7).

Shiga does not disclose, explicitly or implicitly, a polyester resin composition comprising a modifier obtained by partially reacting an amorphous polyester resin (I) with a reactive compound (II); and a crystalline polyester resin (IV). Rather, Shiga discloses a polyester resin composition produced by mixing an amorphous polyester resin, a reactive compound, and a crystalline polyester resin together and then molding the obtained mixture. For example, in Example 14, an amorphous polyester (A), a crystalline polyester (a), and a reactive compound (R), together with other ingredients, were mixed together to obtain a mixture; and then “the resulting mixture was kneaded and profile extrusion molded.” This is different from the claimed invention in which an amorphous polyester resin (I) and a reactive compound (II) first react partially with each other to form a modifier, and only the obtained modifier, not the amorphous polyester resin (I) or the reactive compound (II), is mixed with a crystalline polyester resin (IV). As explained above, the claimed polyester resin composition exhibits unexpected superior results in terms of moldability, mechanical property, and transparency (see specification from page 14, line 27 to page 15, line 7).

Shiga fails to disclose a polyester resin composition comprising a modifier obtained by partially reacting an amorphous polyester resin (I) with a reactive compound (II) as recited in claim 17 or a process for producing a molded article, comprising partially reacting an amorphous polyester resin (I) with a reactive compound (II) to obtain a modifier as recited in claim 25. Therefore, claims 17-21, 23, and 25 are not anticipated by Shiga. Withdrawal of the rejections is respectfully requested.

II. Applicants respectfully traverse the rejections of claims 1-5 under 35 U.S.C. 102(b) as allegedly being anticipated by Akira et al. (JP 2003238777). Claims 1-5 have been canceled, rendering the rejections moot.

### **Claim Rejections -- 35 U.S.C. 103**

I. Applicants respectfully traverse the rejection of claim 6 under 35 U.S.C. 103 as allegedly being obvious over Akira as applied to claims 1-5, and further in view of Borman (US 3,953,404). Claim 6 has been canceled, rendering the rejection moot.

II. Applicants respectfully traverse the obviousness rejections of claims 1-5, 7-11, 13-15, and 25-35 over Avramova et al. (US 4,915,885) in view of Akira. Claims 1-5 have been canceled, rendering the rejections of these claims moot.

Neither Avramova nor Akira teaches or suggests a polyester resin composition comprising an amorphous polyester resin (I) reacted partially with a reactive compound (II), as recited in amended claim 7. Avramova merely discloses a homogeneous amorphous polymeric blend of polyethyleneterephthalate (PET) and polybutyleneterephthalate (PBT). As the Office Action acknowledges (page 6, lines 1-3), Avramova does not teach a reactive compound (II) containing two or more glycidyl groups and/or isocyanate groups per molecule and having a weight average molecular weight of not less than 200 and not more than 500 thousands, as recited in claim 7, let alone a modifier obtained by partially reacting an amorphous polyester resin (I) with a reactive compound (II).

Akira does not teach or suggest a process comprising partially reacting an amorphous polyester resin (I) with a reactive compound (II) to obtain a modifier and then mixing thus obtained modifier with an amorphous polyester resin (III) or a polyester resin composition comprising the modifier and an amorphous polyester resin (III), as recited in claim 25 and 7, respectively. Akira does not recognize the problems such as gelation that are associated with a process in which an amorphous polyester resin (I), a reactive compound (II), and an amorphous polyester resin (III) are simply dry-blended together and molded. Neither does Akira teach or suggest that such problems may be solved by allowing an amorphous polyester resin (I) to partially react with a reactive compound (II) first to obtain a modifier before mixing the resulting modifier with an amorphous polyester resin (III).

Avramova and Akira, even when taken in combination, fail to disclose a polyester resin composition comprising a modifier obtained by partially reacting an amorphous polyester resin (I) with a reactive compound (II), as recited in present claim 7, or a process producing a molded

article comprising a step of obtaining such a modifier, as recited in amended claim 25. Because the cited references do not teach or suggest each and every limitation of the claims, a prima facie case of obviousness has not been established. Withdrawal of the rejections of claims 7-11, 13-15, and 25-35 under 35 U.S.C. 103(a) is respectfully requested.

III. Applicants respectfully traverse the obviousness rejections of claims 12 and 16 over Avramova in view of Akira as applied to claims 1-5, 7-11, and 13-15, and further in view of Borman (US 3,953,404).

As discussed above, Avramova and Akira, even when taken in combination, fail to disclose a polyester resin composition comprising an amorphous polyester resin (I) reacted partially with a reactive compound (II), as recited in present claim 7, from which claims 12 and 16 depend. This deficiency is not cured by Borman. Borman merely discloses a branched copolyester containing a polyfunctional branching component (col. 3, lines 25-28), but Borman is silent on the preparation of a modifier by a partial reaction of an amorphous polyester resin and a reactive compound. Neither does Borman teach or suggest a polyester resin composition comprising a modifier and an amorphous polyester resin (III), as recited in amended claim 7. Because Avramova, Akira, and Borman do not disclose every limitation of claim 7, a prima facie case of obviousness has not been established. Withdrawal of the rejections is respectfully requested.

IV. Applicants respectfully traverse the obviousness rejections of claims 17-24 over Moens et al. (US 2003/0153640) in view of Akira.

Moen is a non-analogous art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). Moen discloses a thermosetting composition for powdered paints and is not in the field of applicant's endeavor, i.e., resin-molding. In addition, Moen is not pertinent to the particular problem confronting applicants. The present invention aims to improve the moldability in melt molding and to provide a polyester molded article with better mechanical physical property and transparency (specification, page 4, line 28 to page 5, line 4). Moen relates to a powdered thermosetting composition used as paints and varnishes and is not concerned with moldability or the

mechanical physical property of a molded article. Therefore, Moen is a non-analogous art and should not be relied upon in an obviousness rejection.

Moen discloses a powdered thermosetting composition including a binder, wherein the binder comprises: (a) a carboxyl group containing amorphous isophthalic acid containing polyester, (b) a carboxyl group containing semi-crystalline polyester, (c) at least 10 parts by weight, based on the total weight of the binder, of a glycidyl group containing acrylic copolymer, said copolymer comprising at least 10 mole % of a glycidyl group containing monomer and having a number averaged molecular weight (Mn) of at least 10000, and (d) a curing agent having functional groups reactive with the polyesters' carboxyl groups (paragraphs [0017]-[0018].) The process of preparing the composition of Moen comprises: *dry blending components (a)-(d) together* with other components of the composition (e.g. pigments); homogenizing the mixture in a single screw extruder; cooling down and grounding the extrudate (see paragraph [0085]; Example 16). Therefore, in the process of Moen, the amorphous polyester, the reactive compound, and the semi-crystalline polyester are dry-blended together and then extruded. Such a process can lead to an increase in the viscosity of the melt and even gelling of the material (see the present specification, page 14, line 27 to page 15, line 7.) Moen does not disclose a polyester resin composition comprising a modifier obtained by partially reacting an amorphous polyester resin (I) with a reactive compound (II), as recited in amended claim 17.

Akira does not cure the deficiency of Moen because Akira fails to disclose a polyester resin composition comprising an amorphous polyester resin (I) partially reacted with a reactive compound (II), as recited in amended claim 17. A prima facie case of obviousness has not been established. Withdrawal of the rejections of claims 17-24 over Moen in view of Akira under 35 U.S.C. 103(a) is respectfully requested.

V. Applicants respectfully traverse the obviousness rejection of claim 36 under 35 U.S.C. 103(a) over Avramova in view of Akira as applied to claims 25-35, and further in view of Cappuccio et al. (US 3,350,328).

As discussed above, Avramova and Akira, even when taken in combination, do not teach or suggest a process for preparing a molded article, comprising obtaining a modifier by partially reacting an amorphous polyester resin (I) with a reactive compound (II) and then mixing the modifier with an amorphous polyester (III) and/or a crystalline polyester resin (IV), as recited in claim 36. The deficiency of Avramova and Akira is not cured by Cappuccio. Cappuccio merely

discloses regeneration of PET, but Cappuccio is silent on a process of partially reacting an amorphous polyester resin (I) with a reactive compound (II) to obtain a modifier and then mixing the modifier with a reactive compound (II) and then mixing the modifier with an amorphous polyester (III) and/or a crystalline polyester resin (IV), as recited in claim 36. Because the cited references do not disclose every limitation of claim 36, a prima facie case of obvious has not been established. Withdrawal of the rejection is respectfully requested.

### **CONCLUSION**

The Examiner is encouraged to contact the undersigned regarding any questions concerning this amendment. In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Commissioner is authorized to debit Deposit Account No. 11-0600 the petition fee and any other fees that may be required in relation to this paper.

Respectfully submitted,  
KENYON & KENYON LLP

/Qi Zhao/

Qi Zhao

Reg. No. 64,129

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1500 K Street, N.W.  
Suite 700  
Washington, D.C. 20005  
Tel: (202) 220-4200  
Fax: (202) 220-4201